

## ABSTRACT:

The invention relates to a method of processing an image belonging to a sequence of at least two images  $IM(t_1)$ ,  $IM(t_2)$  having a surface representing an organ or part of an organ deformable over time and called the organ surface, said surface including characteristic points, denoted marking points  $MP$ , which correspond to each other from one image to another in the sequence. The method includes a step DEF of defining, on an image  $IM(t_1)$ , a structure per unit length whose deformation is to be followed,  $LS(t_1)$ , a step CALC of calculating the positions of the marking points  $MP(t_1)$  and  $MP(t_2)$ , and a step DET of determining the parameters of an explicit mathematical expression  $f(t_1/t_2)$  of the deformation of the organ observed between the two images. Said determination is carried out from the positions of a set  $MP'$  of marking points on the two images. The expression  $f(t_1/t_2)$  is then applied in a step AP to the structure per unit length  $LS(t_1)$  in order to define the form of the structure per unit length  $LS(t_2)$  after deformation of the organ between the two images.

Fig. 1

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10